CLAIMS

What is claimed is:

1. A high density magnetic recording medium using a FePtC thin film, which comprises an information recording unit and an information storing unit to magnetically record information using the information recording unit, wherein the information storing unit comprises a FePtC thin film manufactured by simultaneously depositing iron (Fe), platinum (Pt), and carbon (C) on a substrate.

2. The high density magnetic recording medium as set forth in claim 1, wherein the FePtC thin film contains 10 to 50 volume% carbon.

3. A method of manufacturing a high density magnetic recording medium using a FePtC thin film, which comprises an information recording unit and an information storing unit to magnetically record information using the information recording unit, the method comprising the step of:

simultaneously depositing iron (Fe), platinum (Pt), and carbon (C) on a substrate to form a FePtC thin film, thus producing the information storing unit.

4. The method as set forth in claim 3, wherein the FePtC thin film is deposited on the substrate using a sputtering device according to a simultaneous deposition process.

5. The method as set forth in claim 3, wherein the FePtC thin film contains 25 volume% carbon.

6. The method as set forth in claim 3, wherein the substrate is concurrently heat-treated at 400℃ while the FePtC thin film is deposited on the substrate.

7. The method as set forth in claim 6, wherein the FePtC thin film is concurrently deposited on the substrate while the substrate is heat-treated for one hour.

8. The method as set forth in claim 3, wherein the substrate comprises a magnesium oxide (MgO) substrate.

9. The method as set forth in claim 8, wherein the substrate is concurrently heat-treated at 400℃ while the FePtC thin film is deposited on the substrate.

10. The method as set forth in claim 9, wherein the FePtC thin film is concurrently deposited on the substrate while the substrate is heat-treated for one hour.